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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,630	06/28/2001	Seigi Aoyama	3008-28	4486

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ARLINGTON, VA 22209

EXAMINER

DINH, TUAN T

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 05/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/893,630

Applicant(s)

MURASAKI, RYUICHI

Examiner

Tuan T Dinh

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 3, 6 and 8-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5 and 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Applicant's election without traverse of Embodiment I (claims 1-2, 4-5, and 7-13) in Paper No. 5 is acknowledged.

Claims 8-13 do not read on any elements as shown in figures 1-2. This is not found persuasive because Figures 1-2 as selected by applicant that do not teach an electrical component such as solar battery, printed board, BGA typed printed board, wore, or coaxial cable. Claims 8-13 are withdrawn from further consideration as being drawn to non-elected subject matter.

Examiner is now exams claims 1-2, 4-5, and 7 to prosecute this application based on figures 1-2.

### ***Drawings***

2. Figures 6, and 7A-7B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claim4 is objected to because of the following informalities:  
Claim 4, line 6, change "the plating in the" to --the plating in a--.  
Claim 4, line 8, change "the apex" to --an apex--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification is silent regarding "the bulge is in the form of an arc, a triangle, or stairs", claim 5, line 2.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Tucker et al. (U. S. Patent 4,929,423).

As to claim 1, Tucker discloses a lead-free solder (column 1, line 7) comprising:  
an alloy composition (column 1, lines 22-23) composed mainly of tin (91-99.25%, column 1, line 23), said alloy composition containing 0.002 to 0.015% by mass of phosphorus (0-0.1%, column 1, lines 37-38).

As to claim 2, Tucker discloses the lead-free solder wherein said alloy composition 2.0 to 5.0% by mass of silver (0.05-3.0%, column 1, line 24), 0.01 to 2.0% by mass of copper (0.7-6.0%, column 1, line 24), and 0.002 to 0.15% by mass of phosphorus with a balance consisting of tin (column 1, lines 35-40).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. <sup>57</sup>Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kenji et al (figures 1 and 2 submitted by applicant) in view of Tucker et al. (U. S. Patent 4,929,423).

As to claims 4-5, and 7, Kenji discloses a connection lead as shown in figures 1-2 comprising:

a copper strip (1) or other strip conductor; and

a plating (2a, 2b) provide on at least one side of the strip conductor, said plating being formed of a lead-free solder composed mainly of tin, and has a shape such that the plating in a widthwise direction of the strip conductor having a bulge as viewed in section with an apex being located at a proper position in the widthwise direction of the strip conductor.

Kenji does not show said plating containing 0.002 to 0.015% by mass of phosphorus.

Tucker teaches a lead free solder (column 1, line 7) containing 0.002 to 0.015% by mass of phosphorus (0-0.1%, column 1, lines 37-38) and having a shape such that the plating in a widthwise direction.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a small weight of phosphorus of a lead free solder as taught by Tucker to employ the connection lead of PA in order to provide of high melting point of tin solder, and also reduce lead used in plumbing solder for public supply system carrying drinking water because of the fear that the small amount of lead dissolved in water and ingested over a long period of time maybe detrimental for health.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Singh, Padauchi et al., Yamashita et al. and Soga et al. disclose related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T Dinh whose telephone number is 703-306-5856. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on 703-305-9883. The fax phone numbers

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for the organization where this application or proceeding is assigned are 703-305-1341  
for regular communications and 703-305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or  
proceeding should be directed to the receptionist whose telephone number is 703-308-  
0956.

TD  
May 4, 2002.

  
KAMAND CUNEO  
PRIMARY EXAMINER